

PURPOSE of the ARCADIAN is to disseminate material having to do with the Bally/AstroVision Arcade game/computer. The underlying reason for the paper is to help all understand how and why the machine operates the way it does. We can then make it operate the way we want it to, and we can expand its usefulness..

A HISTORY STATEMENT is getting to be a tradition - a few words for those who start their subscription with Volume III: When the Chicago mail order house of JS&A advertised the Bally in the popular magazines in Sept 1977, a number of us bought into it. Lots of promises, but delivery was poor, both on the existing hardware and on the promised stuff. Some never did come. The Tiny Basic cartridge did show up about a year later, and I started this paper in November, 1978. I got tired of waiting for the Add-On and was about to contract for a slightly smaller unit when the Fidelity deal made us take a second look. There was no point in trying to compete with the factory, and that is still a consideration. Instead, we started to concentrate on small Projects (more later). AstroVision took over the consumer products div. of Bally in August 1980, and we are now looking to them for continued support.

USER GROUP REPORTS are needed - partly to get others in the area to attend, and partly for our mutual knowledge. You don't have to submit as polished an item as George Moses did -printing is his business. - we just need something that is informative and legible, as:

Chicago Bally User Group meets 3rd Sunday every month at
DeVry Technical Institute 3300 N. Campbell Chicago, IL
contact: Mike Maslowski 312-654-8937

SHORT PERSONAL NOTE of thanks to those who sent well wishes on our 25th. We enjoyed a four-week sojourn to Europe, where we spent three really beautiful weeks in Switzerland. One of my other hobby interests is model railroading, and the Swiss have a well-ordered system that operates with precision and the trip was quite informative to me. We also made 6 lake voyages by boat, and climbed the Susten Pass by postal bus to see the Alps up close.

FORMAT of this paper is rather loose, but I try to include material for both the tyro and the expert. Material in the ARCADIAN is subscriber generated, so I am looking to you for our continued operation and therefore mutual learning. I need programs and tutorials, and at all levels. Programs should be sent as a tape, and a listing as well would help for those times when a garble comes through. The programs in the ARCADIAN are listed directly from the Bally to a COMPRINT 912S printer. There is a little idiosyncrasy in that combination - the printer has no divide sign (neither does my typewriter), and it can't tell the difference between a multiply sign or a lower case X, and there is no right arrow, either. So, whenever you see a lower case letter, it means:

a	=	right arrow(>)
b	=	multiply (x)
c	=	divide (÷)

ASTROVISION TAKEOVER The new manufacturer of the Arcade is AstroVision, Inc., a Columbus, Ohio firm. The actual production will probably be done at their subsidiary, E.F. Johnson, the CB manufacturer. Latest words on plans, etc., are in George Moses' report , following...

MICHIGAN USER GROUP report by George Moses. These two pages of material were just received, and there is plenty of up-to-the-minute information therein.

A. When the Arcade was designed it was the most advanced in the field, and with its three custom chips and Z-80 microprocessor it still has the fastest graphics of any machine on the market at less than twice the price! (The music processor and 3-voice sound chip compares favorably with some sound synthesizers costing up to \$2500 say the development engineers.) But Astrovision doesn't intend to sit on this design forever. Already a complete redesign is in the planning stages to offer a new "state of the art" Bally Arcade, possibly late next year that will be as far ahead of the competition as it was when first introduced in 1978. Q. We're still discovering secrets about the Arcade's Bally Basic! Why didn't Bally give us more support and software and tell us about the features we're still stumbling onto? A. We don't know why Bally held such a close-to-the-vest attitude about the insides of the Bally Basic, certainly the most fascinating cartridge they've ever produced. But we are trying to put together a master file of Bally users, whether through warranty registrations, lists supplied to us from users groups that contact us or through Cursor and Arcadian newsletters, certainly the two main sources of programs for the Bally Basic. We want to bring the Bally users together and help them to develop better software. And, we are going to be looking for other sources of software to supplement Bally in developing and marketing programs for the Arcade. We also plan to market six to eight new game cartridges between now and next July. We've brought three of them with us today to demonstrate. Dogpatch, which is now on the market, Grand Prix and Demolition Derby, which still needs a little refinement to make it more challenging, and the music cartridge that we hope to have ready very soon.

After demonstrating the cartridges the air was abuzz with users playing the new games and showing off their own software to Charles and Claghorn. Bob Weber showed off his Blue Ram and loaded the Bally-Pinball game into his Arcade off a cassette tape thru the Blue Ram. Dave Ibach and Steve Walters demonstrated their foreground-background processing routine formatted into a spooky Halloween demo that amidst skulls, pumpkins and spooky organ music sets a witch flying around on a broom in front of a haunted house. The witch is updated over 15,000 times a second, faster than the TV scans the picture tube, so she doesn't blink at all! Also, Steve Wilson had a new color basic cartridge and a machine monitor cartridge which allows him to program the Z-80 directly in hex. Also he brought his own 4K memory addition he built from trashbin computer parts. It works!

We were very impressed with Ken Charles and Rick Claghorn from AstroVision, and we hope they were impressed with our group of tenacious Bally lovers. Hope springs eternal in the heart of man, and if there is new life for the Bally Arcade there are many of us who would love to help with suggestions, programs and criticism to make it better. If you have any, please contact AstroVision at 6460 Busch Blvd., Suite 215, Columbus, Ohio 43229. Phone (614) 885-0130.

FENTON, MICHIGAN — Two Astrovision representatives attended the meeting of the Michigan Bally Users' Group on Sunday, October 26 at Tri-County Electronics in Fenton. Ken Charles, software manager and Rick Claghorn, computer specialist arrived at noon after a five hour drive from their head quarters in Columbus, Ohio, and were immediately welcomed and besieged with questions. But first things first. They were led to the food and beverage table and were brought back to life before the formal meeting began.

If Ken Charles and Rick Claghorn are any indication of Astrovision's dedication to the Arcade and its users then the future of this product and its future software and peripherals looks bright once again. It does take dedication to give up a Sunday with the family, spend 10 hours driving (round trip) and to occupy yourself all afternoon talking about products you've looked at all week at work!

The real meeting began. Ken Charles and Rick Claghorn were introduced and Charles took the floor. His remarks began with a short history of Astrovision and their previous entry into the video game market with Cybervision, a game, much like Bally's that was ahead of its time and not very aggressively marketed. Its chief retail outlet was Montgomery Ward's who, as they are now doing with the Bally, only showed them in stock before Christmas and then only in the sporting goods department next to the jockstraps.

Now, Charles says, they are going to aggressively market the Arcade in a great many stores that cater to the computer enthusiast such as our meeting place, Tri County Electronics, who stocks Arcades, cartridges, control handles and interfaces all year round! Also, Ron Pollock, the owner, advertised our meeting to the public in the local papers, spending hundreds of dollars to generate interest in Bally. He really made us feel welcome! The questions began:

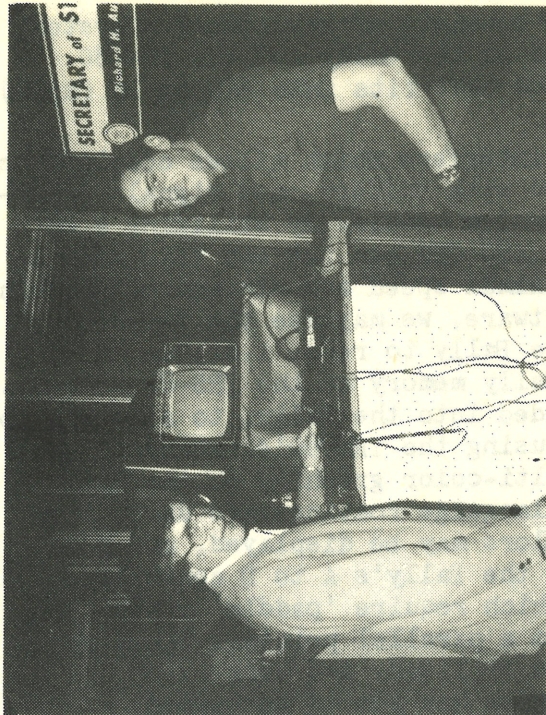
Q. When will the much-promised "add-under" keyboard memory be offered?

A. Hopefully by the middle of 1981 or sooner. There were many versions developed by Bally, none of which was what the buyer really seemed to want according to their surveys. They're trying to develop this as a 16K add-on with a language based on Terse or Fortran in a Basic format that will allow the user to program superb graphics for games.

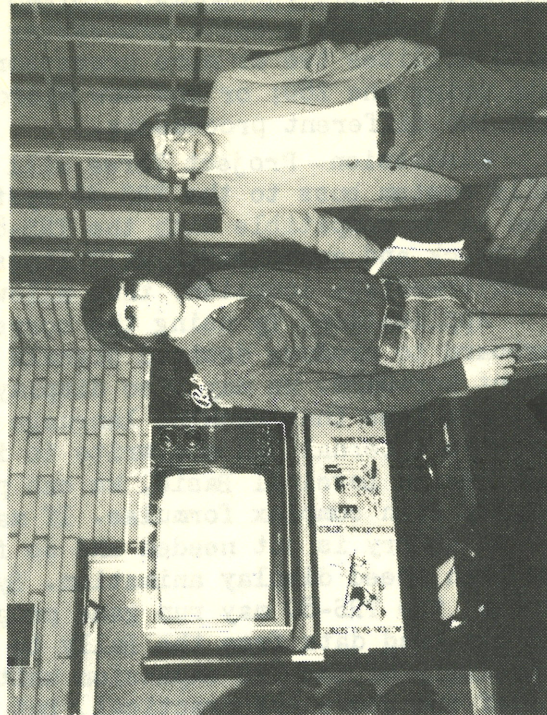
Q. What about peripherals? A. While there will be access ports for attaching peripherals such as light pens, tape decks and printers, Astrovision does not plan to promote the Arcade as a word-processing machine. Any attachments offered will be to enhance its game playing capabilities, a property the Arcade has over all of its competition in the video field at anywhere near its price range.

Q. Now that there is advanced competition in the video game field that didn't exist when the Arcade was introduced how does Astrovision intend to capture a share of the market with a product designed 5 years ago?

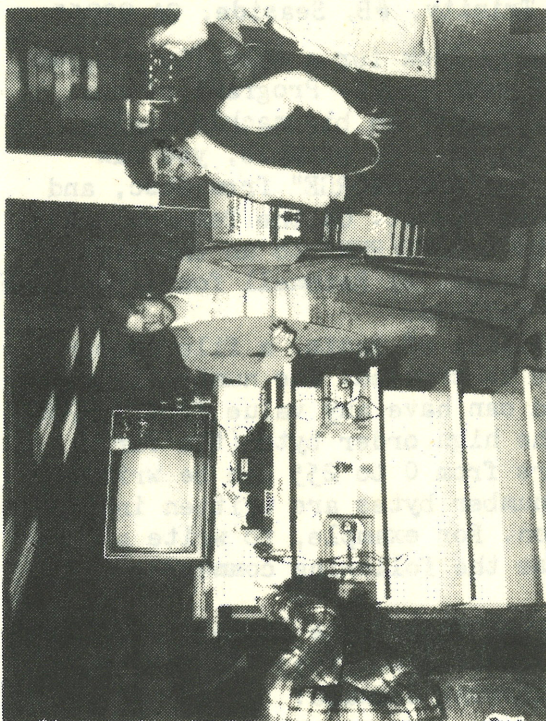
BLUE RAM TUTORIALS will again appear in the next issue. I wanted to get the interesting news from the Michigan User Group out to all, so I have deferred some material to next month.



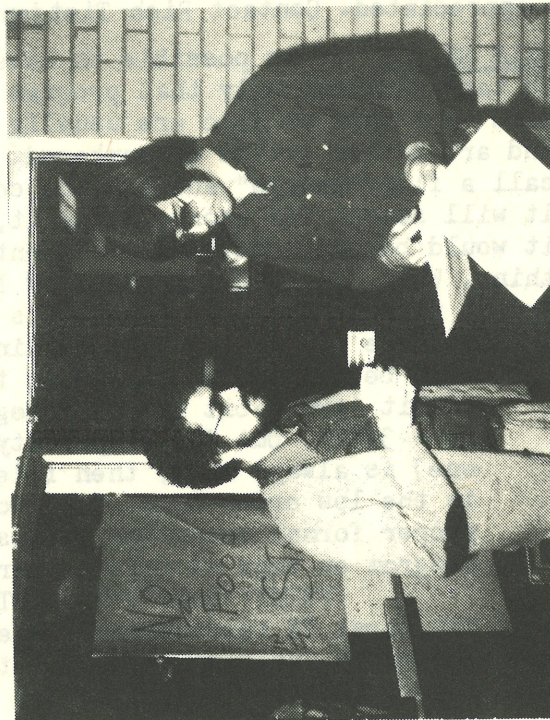
Ken Charles, Astrovision Software Manager inspects the software of Bob Weber of W&W Software, the most prolific vendor of software for the Bally Arcade.



Brett Bilbrey and Ken Charles of Astrovision looking at a display of the new Demolition Derby cartridge, still under development.



Rick Claghorn, Astrovision Computer Specialist and Ron Pollock, owner of Tri-County Electronics, Fenton, Michigan talk over the manufacturer-dealer relationships.



Dave Ibach and Brett Bilbrey discuss their fantastic breakthrough in using the foreground-background processor for smooth, fast graphics. Brett is thanking Dave for telling him where to stick his stack pointer!

BLUE RAM KEYBOARD OPTION. To clarify my announcement of last month - Should you desire a wired and tested unit, ready to plug into the Blue Ram, send me 89.95. Should you want a kit of the electronic parts, send \$24.95 to me, and order the keyboard itself from JAMECO. You could use another keyboard that you have lying around, which is why we offer it this way, but we know it will work with the JAMECO.

TUTORIAL MULTI-PROCESSING SYSTEMS

Definition. A multi-processing system consists of any computer system which utilizes two or more processors, such as the Bally and the TRS-80, both using the Z80; or the new Microsoft Z80 that fits into the Apple (6502), with two different processors.

Discussion. Project Three will be an interface which allows coupling the Bally system buss to the TRS-80 system buss with buffers, and signals generated to be compatible with the TRS-80 expansion module. By utilizing a 4K RAM block and appropriate WAIT lines, each Z80 CPU can put and take data in an intermediate location, thus allowing maximum speed and minimum programming.

Application. By using the correct software, we may use the TRS-80 keyboard to produce desired signals for the Bally to read, i.e., an intelligent keyboard. We may also display the Bally memory on the TRS-80 monitor. This requires that machine language be loaded into the Bally, to allow it to read the external RAM and write to it. By using the TRS-80's extensive trig routines in Level II Basic, we can plot multi-color graphics on the Bally display with complex formulae. If machine language routines are used, then screen memory is not needed and so four colors may be displayed, and POKED for high speed display animation. By using the Bally's A to D conversion system, the TRS-80 may run game programs which require 'paddle' input. The TRS can read data from the Bally to send to a parallel printer. The disc capability of the TRS expansion unit may be utilized. And more... All of the above are practical, but the system has yet to be tested.

Comments, ideas, help, etc., are solicited, and a stamped envelope would be appreciated. Contact Rich Tietjens, 1008 Trinity, #B, Seaside, CA 93955

FILE SEARCH It is possible to have the Bally look for a specific program on tape and load only that program when it gets to it. Programs of any kind on a tape or disc are usually called "files" in big machine-talk, and are either titled or numbered. On the Apple, for example, you can call a file "george" and ask the computer to "RUN GEORGE" from disc, and it will search for george, load it, and then run it. On the Tektronics, it would be numbered, and you'd enter "FIND 6/LOAD/RUN" to do the same thing. Well, in studying the Tiny Basic listing, Al Rathmell found that the Arcade will do the same thing. His report follows:

"To make use of the file finding capability of Basic, a file number must be written on tape when the file is created. The number is a 16 bit (two 8-bit bytes) integer, and can have any value from -32768 to + 32767, but for simplicity, if the high order byte (the first one) is always zero, then file numbers from 0 to 255 can be written in the low order byte. The two file number bytes are written in the proper format using the TV instruction. For example, to write a program on tape as file number 10, use the following command:

```
:PRINT;TV=0;TV=10;LIST
```

The first TV instruction writes the high order byte (zero), and the second TV instruction writes the low order byte (ten). To read file number 10 into the Bally, use the following command:

```
:INPUT 10
```

The file finding system also works with the :LIST and :RUN commands. Using the file numbering capability of Bally Basic adds a professional touch to tape file management!"

ADS on the back page are free. Please make them legible. In providing this service I am also providing no guarantees and take no responsibility at all. Half-page and up ads are not free, contact me for data.

PROGRAM REVIEW

PROGRAM NAME: Tic-Tac-Tollah
 DESCRIPTION: The Ayatollah adds a new dimension to tic-tac-toe: cheating! His eyes and mouth move as he constantly changes his mind, changes his moves, and changes the rules! Can you beat him by playing fair? Can you exercise diplomatic restraint? A really unique and creative addition to the old game.

TYPE: GAME

SOURCE Name: Anderson Research and Design
 Address: 1611 Lacota Lane
 City: Burnsville State: MN ZIP: 55337

PROGRAM PRICE: \$ 4.95 LISTING PRICE: Not Available

RATING % based on applicable rating items. 62 / 72 = 86.1%
 PD= 6 PP= 8 USF= 6 LC= 9 OC= 8 LI= 7 EV= XX EU= 9 OV= 7
 Time to play 3 min. For ages 8 up # of players 1
 Richard Houser

PROGRAM NAME: GRAPHICS DEMO
 DESCRIPTION: Practical applications of principles described in the CURSOR Tutorial -- DMA Graphics-- by C. J. Anderson (April 80). Contains XY to Pixel Location; Poke to Pixel Chart; Screen Locator; Decimal to Poke; Type Sample and Explorer I Demo. This is mainly for people who want to explore the BALLY's graphics capabilities.

TYPE: Tutorial

SOURCE Name: Anderson Research and Design
 Address: 1611 Lacota Lane
 City: Burnsville State: MN ZIP: 55337

PROGRAM PRICE: \$ LISTING PRICE: Not Available

RATING % based on applicable rating items. 51 / 63 = 80.9%
 PD= 5 PP= 7 USF= XX LC= XX OC= 8 LI= 8 EV= 8 EU= 7 OV= 8
 Time to play NA For Ages 10 up # of players NA
 Reviewed by Richard Houser

PROGRAM NAME: Checkbook
 DESCRIPTION: A program designed to be used by any member of the family to balance their personal checking account. The program explains itself as it goes along.

TYPE: Personal

SOURCE Name: Anderson Research and Design
 Address: 1611 Lacota Lane
 City: Burnsville State: MN ZIP: 55337

PROGRAM PRICE: \$ LISTING PRICE: Not Available

RATING % based on applicable rating items. 38 / 54 = 70.3%
 PD= 7 PP= 7 USF= XX LC= XX OC= 7 LI= 7 EV= XX EU= 7 OV= 3
 Time to play NA For ages 10 up # of players 1
 Reviewed by Richard Houser

PROGRAM NAME: Video Rally
 DESCRIPTION: This is the most intriguing game program that I have found for the BALLY. If you have ever done any TSD (Time Speed & Distance) Rally's you should buy this and you will spend hours trying to get the lowest score. This is a great training aid in preparing for an actual TSD rally. The instructions for this program are excellent (8 pages). This doesn't make the playing of this game easy, however.

TYPE: GAME

SOURCE Name: Anderson Research and Design
 Address: 1611 Lacota Lane
 City: Burnsville State: MN ZIP: 55337

PROGRAM PRICE: \$ LISTING PRICE: Not Available

RATING % based on applicable rating items. 70 / 72 = 97.2
 PD= 9 PP= 9 USF= 9 LC= 9 OC= 9 LI= 9 EV= XX EU= 9 OV= 7
 Time to play 15 min. For ages 14 up # of players 1
 Reviewed by Richard Houser

ARCADIAN

```

1 .
2 .
3 .
4 .
5 .SPEED 0 MATH
6 .BY BOB WISEMAN
10 :RETURN ;CLEAR ;BC=65;FC=197
20 PRINT "ENTER +,-,c,OR b
30 Q=KP;S=0
40 CLEAR ;FOR N=1TO 10;T=0;R=63
50 GOSUB 100;GOSUB 400
60 CX=-35;CY=35;S=S+T
70 PRINT "SCORE=",#4,S
75 NEXT N
80 GOTO 20
100 X=RND (9);Y=RND (9)
105 IF Q=43Z=X+Y;GOTO 200
110 IF Q=98Z=XbY;GOTO 200
115 IF Q=45W=X+Y
120 IF Q=99W=XbY
125 Z=X;X=W
200 A=20180;B=A;C=300;E=2
210 D=-43;GOSUB C
215 D=53;GOSUB C
220 D=19521;GOSUB C
225 D=20190;GOSUB C
230 D=-13871;GOSUB C
231 IF R=63L=X;M=Y;O=Z
232 IF R<63X=L;Y=M;Z=O
233 E=1;D=32;GOSUB C
235 E=1;IF X>9D=48+Xc10;X=RM;GOSUB C
240 D=48+X;GOSUB C
245 D=32;GOSUB C
250 D=Q;GOSUB C
255 D=32;GOSUB C
260 D=R;GOSUB C
265 D=32;GOSUB C
270 D=61;GOSUB C
280 IF Z>9D=48+Zc10;Z=RM;GOSUB C
285 D=48+Z;GOSUB C
286 IF L<10IF O<10D=32;GOSUB C
290 D=0;GOSUB C;CALLB;RETURN
300 %(A)=D;A=A+E;RETURN
400 I=&(23);J=&(22);K=&(21);T=T+1
410 IF I+J+K=0GOTO 400
411 R=0;X=0
415 W=I;GOSUB 430
420 W=J;GOSUB 430
425 W=K;GOSUB 430;GOTO 460
430 IF W=8X=1
435 IF W=4X=4
440 IF W=2X=7

```

Bob Wiseman
118 St. Andrews Dr.
Cincinnati, OH 45245

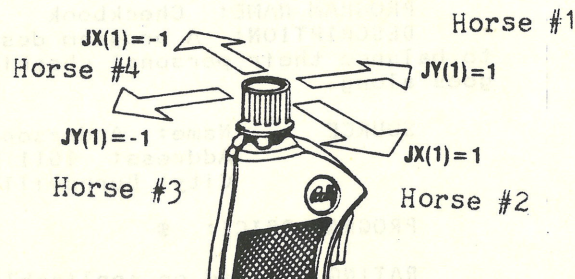
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445 IF W X=X+R
450 R=R+1;RETURN
460 R=Y+48;U=X;GOSUB 200;NT=0;&(16)=75;&(22)=-1
465 IF M=UGOTO 500
470 T=T+300;FOR I=55TO 255STEP 5
475 &(18)=I;&(17)=Ic2;NEXT I
480 GOTO 580
500 FOR I=200TO 1STEP -5
505 &(18)=I;&(17)=Ic2;NEXT I
580 T=200-T;NT=2;&(17)=0;&(18)=0
595 RETURN

```

This Math drill program uses the giant letter routine.

Instructions, etc., for HORSE RACE, on p. 7:



Each player uses his hand controller to choose the horse he wants to bet upon and the size of his bet. To choose the horse, first move the knob to one of the four positions (see diagram) and then pull trigger. To place a bet, move the knob forward to increase the amount by \$5, move it back to decrease by \$5. Set the bet with the trigger.

BSR X-10 CONTROL can now be placed under Bally control. Our latest device will operate the BSR transmitter box (if it is the type that accepts 'remote control') through the Blue Ram. Fully assembled with documentation and a demo program, it operates wireless up to 15' from the BSR box. The price is \$19.95.

ARCADIAN

```

1 . HORSE RACE
2 .BY HOWARD BRECHEISEN
3 CLEAR ;BC=179;INPUT "# OF PLAYERS?"H
4 CLEAR ;A=500;FOR I=1TO H;@(I)=A
5 NEXT I
9 CLEAR ;BC=18;FC=14
10 NT=0;@(9)=175
11 LINE -12,-44,4;LINE -12,43,1
12 CX=-76;CY=30
13 PRINT "HORSE ODDS
14 Z=10;FOR I=1TO 4
15 CY=Z;@(I+8)=RND (5)+1;@(I+12)=0
16 PRINT "#",#2,I,#5,@(I+8),":1"
17 Z=Z-15;NEXT I
18 CX=-6;CY=30
19 PRINT "PL POT BET HR
20 CX=-6;CY=20;PRINT "# $ $ #
21 Z=10
22 FOR I=1TO H
23 CX=-5;CY=Z
24 PRINT #1,I,#5,@(I)
25 Z=Z-15;NEXT I
27 GOSUB 252
35 NT=3;Z=10
36 FOR I=1TO H
37 CY=Z;CX=68;PRINT #1,@(I+12)
38 IF TR(I)GOTO 44
39 IF JY(I)=100(I+12)=1
40 IF JX(I)=100(I+12)=2
41 IF JY(I)=-100(I+12)=3
42 IF JX(I)=-100(I+12)=4
43 GOTO 37
44 Z=Z-15;NEXT I
50 B=0;Z=10
51 FOR I=1TO H
52 CY=Z;CX=42;PRINT #1,B
53 IF TR(I)GOTO 57
54 IF JY(I)=1B=B+5;GOTO 52
55 IF JY(I)=-1B=B-5;GOTO 52
56 GOTO 52
57 @(I+4)=B;B=0;@(I)=@(I)-@(I+4)
58 Z=Z-15;NEXT I
69 GOSUB 252
70 CLEAR
71 @(9)=42
72 BC=89;FC=6
73 BOX 0,0,158,72,3;BOX 0,0,155,70,3
74 LINE 60,34,4;LINE 60,-35,3
75 LINE 59,-17,4;LINE -77,-17,3
76 LINE -77,1,4;LINE 59,1,3;LINE 59,18,4;LINE -77,18,3
77 NT=0;CX=40;CY=40
78 PRINT "FINISH
79 NT=3
107 Z=25;D=-50;E=-50;F=-50;G=-50;J=1;K=2;L=4
108 FOR I=1TO 4
109 CX=-70;CY=Z
110 PRINT "#",#1,I;GOSUB 490+I
112 Z=Z-17;NEXT I

```

```

500 BOX X,Y,6,4,J
501 LINE X+5,Y+3,L
502 BOX X+6,Y+4,3,2,J
503 BOX X+6,Y+4,1,1,K
504 LINE X-6,Y-4,J
505 LINE X-7,Y+1,L
506 LINE X-4,Y+1,J
507 LINE X+5,Y-4,J;RETURN

```

```

113 IF D>53IF D>EIF D>FIF D>G P=1;Q=0(9);GOTO 150
114 IF E>53IF E>DIF E>FIF E>G P=2;Q=0(10);GOTO 151
115 IF F>53IF F>DIF F>EIF F>G P=3;Q=0(11);GOTO 152
116 IF G>53IF G>DIF G>EIF G>F P=4;Q=0(12);GOTO 153
118 J=2
119 FOR I=1TO 4
120 GOSUB 490+I
122 NEXT I

```

Howard Brecheisen
1017 Macklyn Lane
Bartlesville, OK 74003

```

130 J=1
131 D=D+RND (14)+(6-0(9))
132 E=E+RND (14)+(6-0(10))
133 F=F+RND (14)+(6-0(11))
134 G=G+RND (14)+(6-0(12))
135 Z=25;GOTO 108
150 CX=-20;CY=25;PRINT "WINNER";GOTO 160
151 CX=-20;CY=9;PRINT "WINNER";GOTO 160
152 CX=-20;CY=-10;PRINT "WINNER";GOTO 160
153 CX=-20;CY=-29;PRINT "WINNER";GOTO 160
160 IF 0(13)=PGOSUB 201
161 IF 0(14)=PGOSUB 202
162 IF 0(15)=PGOSUB 203
163 IF 0(16)=PGOSUB 204
164 NT=3;GOSUB 252
165 GOTO 9
201 0(1)=0(1)+0(5)+(0(5)bQ);RETURN
202 0(2)=0(2)+0(6)+(0(6)bQ);RETURN
203 0(3)=0(3)+0(7)+(0(7)bQ);RETURN
204 0(4)=0(4)+0(8)+(0(8)bQ);RETURN

```

```

252 FOR A=1TO 1000;NEXT A
253 RETURN
491 X=D;Y=25;GOTO 500
492 X=E;Y=9;GOTO 500
493 X=F;Y=-10;GOTO 500
494 X=G;Y=-29;GOTO 500

```


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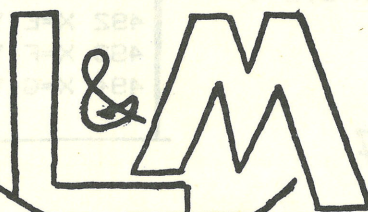
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- o FOR SALE Complete Bally Arcade, includes 4 hand controls, BASIC, Interface, BASEBALL, CLOWNS, SEA WOLF, Manuals, Also line filter and custom carrying case. \$300 or offer. Mark Stradinger, 331 Grove St. Fort Atkinson, WI 53538 414-563-3452
- o SUPER SOFTWARE by Rob Rosenhouse has expanded its line of software into 5 cassettes which include 2 programs each. Listings also available. Free RND (ART) program and descriptions for SAE, to Rob Rosenhouse, 44 Forestbrook Dr., North Plainfield, NJ 07060
- o W & W Software Sales, 6594 Swartout Rd. Algonac, MI 48001. We have 9 tapes with 5 programs each, with or without listings. Or get listings only so you can pick and choose any of the 45 available programs. Excellent variety, color, graphics, use of hand controller, and much more. Games, business programs, and teaching aides for children and adults. Send 25¢ for more information and a copy of Air Traffic Controller, or SAE for information only.

BALLY APPLICATIONS SOFTWARE AND HARDWARE SOURCEBOOK

A Sourcebook of software programs and hardware items is in the process of being prepared. It will follow the general format of the TRS-80 and ATARI Sourcebooks but will also include hardware items for the BALLY as well. The Sourcebook should be ready for distribution by November 31st.

If you want to purchase a Sourcebook, please send a check for \$2.50 to Richard M. Houser
635 Los Alamos Ave.
Livermore, CA 94550

Quantity discounts will be available. (10 or more copies to one address.)

If you are a source of software programs and/or hardware items please contact Richard Houser at (415) 447-8493 between 4:30 and 9:00 PM PST for further information on how to get included in the Sourcebook.

- o DUNGEONS and DRAGONS program package: Eight programs plus a search routine combine to generate characters, personalities, a random dungeon, the rolls of dice, etc. \$8 postpaid on quality tape. R. Tietjens, 1008 Trinity #B, Seaside, CA 93955

NEXT ISSUE will contain some explanations of the ratings scheme and discuss the status of the other Projects. And we'll have some late word on the modem attachment to the Blue Ram.

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